

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/674,235

DATE: 01/04/2001

TIME: 09:01:20

Input Set : A:\PTO.txt

Output Set: N:\CRF3\01042001\I674235.raw

3 <110> APPLICANT: Sagami Chemical Research Center  
 5 <120> TITLE OF INVENTION: Human Proteins Having Transmembrane Domains and DNAs Encoding these  
 6 Proteins  
 8 <130> FILE REFERENCE: 661099  
 C--> 10 <140> CURRENT APPLICATION NUMBER: US/09/674,235  
 C--> 11 <141> CURRENT FILING DATE: 2000-05-19  
 13 <150> PRIOR APPLICATION NUMBER: JP 10-119395  
 14 <151> PRIOR FILING DATE: 1998-04-28  
 16 <160> NUMBER OF SEQ ID NOS: 36  
 18 <170> SOFTWARE: Windows 95 (Word 98)  
 21 <210> SEQ ID NO: 1  
 22 <211> LENGTH: 268  
 23 <212> TYPE: PRT  
 24 <213> ORGANISM: Homo sapiens  
 26 <400> SEQUENCE: 1  
 27 Met Ala Phe Glu Glu Leu Leu Ser Gln Val Gly Gly Leu Gly Arg Phe  
 28 1 5 10 15  
 29 Gln Met Leu His Leu Val Phe Ile Leu Pro Ser Leu Met Leu Leu Ile  
 30 20 25 30  
 31 Pro His Ile Leu Leu Glu Asn Phe Ala Ala Ile Pro Gly His Arg  
 32 35 40 45  
 33 Cys Trp Val His Met Leu Asp Asn Asn Thr Gly Ser Gly Asn Glu Thr  
 34 50 55 60  
 35 Gly Ile Leu Ser Glu Asp Ala Leu Leu Arg Ile Ser Ile Pro Leu Asp  
 36 65 70 75 80  
 37 Ser Asn Leu Arg Pro Glu Lys Cys Arg Arg Phe Val His Pro Gln Trp  
 38 85 90 95  
 39 Gln Leu Leu His Leu Asn Gly Thr Ile His Ser Thr Ser Glu Ala Asp  
 40 100 105 110  
 41 Thr Glu Pro Cys Val Asp Gly Trp Val Tyr Asp Gln Ser Tyr Phe Pro  
 42 115 120 125  
 43 Ser Thr Ile Val Thr Lys Trp Asp Leu Val Cys Asp Tyr Gln Ser Leu  
 44 130 135 140  
 45 Lys Ser Val Val Gln Phe Leu Leu Leu Thr Gly Met Leu Val Gly Gly  
 46 145 150 155 160  
 47 Ile Ile Gly Gly His Val Ser Asp Arg Trp Leu Val Glu Ser Ala Arg  
 48 165 170 175  
 49 Trp Leu Ile Ile Thr Asn Lys Leu Asp Glu Gly Leu Lys Ala Leu Arg  
 50 180 185 190  
 51 Lys Val Ala Arg Thr Asn Gly Ile Lys Asn Ala Glu Glu Thr Leu Asn  
 52 195 200 205  
 53 Ile Glu Val Val Arg Ser Thr Met Gln Glu Glu Leu Asp Ala Ala Gln  
 54 210 215 220  
 55 Thr Lys Thr Thr Val Cys Asp Leu Phe Arg Asn Pro Ser Met Arg Lys  
 56 225 230 235 240  
 57 Arg Ile Cys Ile Leu Val Phe Leu Arg Lys Lys Ile Ser Arg Lys Arg  
 58 245 250 255

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/674,235

DATE: 01/04/2001

TIME: 09:01:20

Input Set : A:\PTO.txt

Output Set: N:\CRF3\01042001\I674235.raw

```

59 His Lys Asn Asp Cys Tyr Thr Lys Val Thr Lys Phe
60           260           265
62 <210> SEQ ID NO: 2
63 <211> LENGTH: 236
64 <212> TYPE: PRT
65 <213> ORGANISM: Homo sapiens
67 <400> SEQUENCE: 2
68 Met Ala Glu Pro Ser Ala Ala Thr Gln Ser His Ser Ile Ser Ser Ser
69   1           5           10           15
70 Ser Phe Gly Ala Glu Pro Ser Ala Pro Gly Gly Gly Ser Pro Gly
71           20           25           30
72 Ala Cys Pro Ala Leu Gly Thr Lys Ser Cys Ser Ser Cys Ala Val
73   35           40           45
74 His Asp Leu Ile Phe Trp Arg Asp Val Lys Lys Thr Gly Phe Val Phe
75   50           55           60
76 Gly Thr Thr Leu Ile Met Leu Leu Ser Leu Ala Phe Ser Val Ile
77   65           70           75           80
78 Ser Val Val Ser Tyr Leu Ile Leu Ala Leu Leu Ser Val Thr Ile Ser
79           85           90           95
80 Phe Arg Ile Tyr Lys Ser Val Ile Gln Ala Val Gln Lys Ser Glu Glu
81   100          105          110
82 Gly His Pro Phe Lys Ala Tyr Leu Asp Val Asp Ile Thr Leu Ser Ser
83   115          120          125
84 Glu Ala Phe His Asn Tyr Met Asn Ala Ala Met Val His Ile Asn Arg
85   130          135          140
86 Ala Leu Lys Leu Ile Ile Arg Leu Phe Leu Val Glu Asp Leu Val Asp
87   145          150          155          160
88 Ser Leu Lys Leu Ala Val Phe Met Trp Leu Met Thr Tyr Val Gly Ala
89   165          170          175
90 Val Phe Asn Gly Ile Thr Leu Leu Ile Leu Ala Glu Leu Leu Ile Phe
91   180          185          190
92 Ser Val Pro Ile Val Tyr Glu Lys Tyr Lys Thr Gln Ile Asp His Tyr
93   195          200          205
94 Val Gly Ile Ala Arg Asp Gln Thr Lys Ser Ile Val Glu Lys Ile Gln
95   210          215          220
96 Ala Lys Leu Pro Gly Ile Ala Lys Lys Lys Ala Glu
97   225          230          235
99 <210> SEQ ID NO: 3
100 <211> LENGTH: 261
101 <212> TYPE: PRT
102 <213> ORGANISM: Homo sapiens
104 <400> SEQUENCE: 3
105 Met Ala Gly Pro Glu Leu Leu Leu Asp Ser Asn Ile Arg Leu Trp Val
106   1           5           10           15
107 Val Leu Pro Ile Val Ile Ile Thr Phe Phe Val Gly Met Ile Arg His
108   20           25           30
109 Tyr Val Ser Ile Leu Leu Gln Ser Asp Lys Lys Leu Thr Gln Glu Gln
110   35           40           45
111 Val Ser Asp Ser Gln Val Leu Ile Arg Ser Arg Val Leu Arg Glu Asn

```

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/674,235

DATE: 01/04/2001

TIME: 09:01:20

Input Set : A:\PTO.txt

Output Set: N:\CRF3\01042001\I674235.raw

```

112      50      55      60
113 Gly Lys Tyr Ile Pro Lys Gln Ser Phe Leu Thr Arg Lys Tyr Tyr Phe
114 65      70      75      80
115 Asn Asn Pro Glu Asp Gly Phe Phe Lys Lys Thr Lys Arg Lys Val Val
116      85      90      95
117 Pro Pro Ser Pro Met Thr Asp Pro Thr Met Leu Thr Asp Met Met Lys
118      100      105      110
119 Gly Asn Val Thr Asn Val Leu Pro Met Ile Leu Ile Gly Gly Trp Ile
120      115      120      125
121 Asn Met Thr Phe Ser Gly Phe Val Thr Thr Lys Val Pro Phe Pro Leu
122      130      135      140
123 Thr Leu Arg Phe Lys Pro Met Leu Gln Gln Gly Ile Glu Leu Leu Thr
124 145      150      155      160
125 Leu Asp Ala Ser Trp Val Ser Ser Ala Ser Trp Tyr Phe Leu Asn Val
126      165      170      175
127 Phe Gly Leu Arg Ser Ile Tyr Ser Leu Ile Leu Gly Gln Asp Asn Ala
128      180      185      190
129 Ala Asp Gln Ser Arg Met Met Gln Glu Gln Met Thr Gly Ala Ala Met
130      195      200      205
131 Ala Met Pro Ala Asp Thr Asn Lys Ala Phe Lys Thr Glu Trp Glu Ala
132      210      215      220
133 Leu Glu Leu Thr Asp His Gln Trp Ala Leu Asp Asp Val Glu Glu Glu
134 225      230      235      240
135 Leu Met Ala Lys Asp Leu His Phe Glu Gly Met Phe Lys Lys Glu Leu
136      245      250      255
137 Gln Thr Ser Ile Phe
138      260
140 <210> SEQ ID NO: 4
141 <211> LENGTH: 328
142 <212> TYPE: PRT
143 <213> ORGANISM: Homo sapiens
145 <400> SEQUENCE: 4
146 Met Val Ser Lys Ala Leu Leu Arg Leu Val Ser Ala Val Asn Arg Arg
147 1      5      10      15
148 Arg Met Lys Leu Leu Leu Gly Ile Ala Leu Leu Ala Tyr Val Ala Ser
149      20      25      30
150 Val Trp Gly Asn Phe Val Asn Met Ser Phe Leu Leu Asn Arg Ser Ile
151      35      40      45
152 Gln Glu Asn Gly Glu Leu Lys Ile Glu Ser Lys Ile Glu Glu Met Val
153      50      55      60
154 Glu Pro Leu Arg Glu Lys Ile Arg Asp Leu Glu Lys Ser Phe Thr Gln
155      65      70      75      80
156 Lys Tyr Pro Pro Val Lys Phe Leu Ser Glu Lys Asp Arg Lys Arg Ile
157      85      90      95
158 Leu Ile Thr Gly Gly Ala Gly Phe Val Gly Ser His Leu Thr Asp Lys
159      100      105      110
160 Leu Met Met Asp Gly His Glu Val Thr Val Val Asp Asn Phe Phe Thr
161      115      120      125
162 Gly Arg Lys Arg Asn Val Glu His Trp Ile Gly His Glu Asn Phe Glu

```

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/674,235

DATE: 01/04/2001

TIME: 09:01:20

Input Set : A:\PTO.txt

Output Set: N:\CRF3\01042001\I674235.raw

```

163      130      135      140
164 Leu Ile Asn His Asp Val Val Glu Pro Leu Tyr Ile Glu Gly Val Glu
165 145      150      155      160
166 Val Arg Val Ala Arg Ile Phe Asn Thr Phe Gly Pro Arg Met His Met
167      165      170      175
168 Asn Asp Gly Arg Val Val Ser Asn Phe Ile Leu Gln Ala Leu Gln Gly
169      180      185      190
170 Glu Pro Leu Thr Val Tyr Gly Ser Gly Ser Gln Thr Arg Ala Phe Gln
171      195      200      205
172 Tyr Val Ser Asp Leu Val Asn Gly Leu Val Ala Leu Met Asn Ser Asn
173      210      215      220
174 Val Ser Ser Pro Val Asn Leu Gly Asn Pro Glu Glu His Thr Ile Leu
175 225      230      235      240
176 Glu Phe Ala Gln Leu Ile Lys Asn Leu Val Gly Ser Gly Ser Glu Ile
177      245      250      255
178 Gln Phe Leu Ser Glu Ala Gln Asp Asp Pro Gln Lys Arg Lys Pro Asp
179      260      265      270
180 Ile Lys Lys Ala Lys Leu Met Leu Gly Trp Glu Pro Val Val Pro Leu
181      275      280      285
182 Glu Glu Gly Leu Asn Lys Ala Ile His Tyr Phe Arg Lys Glu Leu Glu
183      290      295      300
184 Tyr Gln Ala Asn Asn Gln Tyr Ile Pro Lys Pro Lys Pro Ala Arg Ile
185 305      310      315      320
186 Lys Lys Gly Arg Thr Arg His Ser
187      325
189 <210> SEQ ID NO: 5
190 <211> LENGTH: 300
191 <212> TYPE: PRT
192 <213> ORGANISM: Homo sapiens
194 <400> SEQUENCE: 5
195 Met Lys Phe Leu Leu Asp Ile Leu Leu Leu Leu Pro Leu Leu Ile Val
196 1      5      10      15
197 Cys Ser Leu Glu Ser Phe Val Lys Leu Phe Ile Pro Lys Arg Arg Lys
198      20      25      30
199 Ser Val Thr Gly Glu Ile Val Leu Ile Thr Gly Ala Gly His Gly Ile
200      35      40      45
201 Gly Arg Leu Thr Ala Tyr Glu Phe Ala Lys Leu Lys Ser Lys Leu Val
202      50      55      60
203 Leu Trp Asp Ile Asn Lys His Gly Leu Glu Glu Thr Ala Ala Lys Cys
204 65      70      75      80
205 Lys Gly Leu Gly Ala Lys Val His Thr Phe Val Val Asp Cys Ser Asn
206      85      90      95
207 Arg Glu Asp Ile Tyr Ser Ser Ala Lys Lys Val Lys Ala Glu Ile Gly
208      100      105      110
209 Asp Val Ser Ile Leu Val Asn Asn Ala Gly Val Val Tyr Thr Ser Asp
210      115      120      125
211 Leu Phe Ala Thr Gln Asp Pro Gln Ile Glu Lys Thr Phe Glu Val Asn
212      130      135      140
213 Val Leu Ala His Phe Trp Thr Thr Lys Ala Phe Leu Pro Ala Met Thr

```

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/674,235

DATE: 01/04/2001

TIME: 09:01:20

Input Set : A:\PTO.txt

Output Set: N:\CRF3\01042001\I674235.raw

```

214 145                               150                               155                               160
215 Lys Asn Asn His Gly His Ile Val Thr Val Ala Ser Ala Ala Gly His
216                               165                               170                               175
217 Val Ser Val Pro Phe Leu Leu Ala Tyr Cys Ser Ser Lys Phe Ala Ala
218                               180                               185                               190
219 Val Gly Phe His Lys Thr Leu Thr Asp Glu Leu Ala Ala Leu Gln Ile
220                               195                               200                               205
221 Thr Gly Val Lys Thr Thr Cys Leu Cys Pro Asn Phe Val Asn Thr Gly
222                               210                               215                               220
223 Phe Ile Lys Asn Pro Ser Thr Ser Leu Gly Pro Thr Leu Glu Pro Glu
224 225                               230                               235                               240
225 Glu Val Val Asn Arg Leu Met His Gly Ile Leu Thr Glu Gln Lys Met
226                               245                               250                               255
227 Ile Phe Ile Pro Ser Ser Ile Ala Phe Leu Thr Thr Leu Glu Arg Ile
228                               260                               265                               270
229 Leu Pro Glu Arg Phe Leu Ala Val Leu Lys Arg Lys Ile Ser Val Lys
230                               275                               280                               285
231 Phe Asp Ala Val Ile Gly Tyr Lys Met Lys Ala Gln
232 290                               295                               300
234 <210> SEQ ID NO: 6
235 <211> LENGTH: 182
236 <212> TYPE: PRT
237 <213> ORGANISM: Homo sapiens
239 <400> SEQUENCE: 6
240 Met Lys Gly Trp Gly Trp Leu Ala Leu Leu Leu Gly Ala Leu Leu Gly
241 1 5 10 15
242 Thr Ala Trp Ala Arg Arg Ser Gln Asp Leu His Cys Gly Ala Cys Arg
243 20 25 30
244 Ala Leu Val Asp Glu Leu Glu Trp Glu Ile Ala Gln Val Asp Pro Lys
245 35 40 45
246 Lys Thr Ile Gln Met Gly Ser Phe Arg Ile Asn Pro Asp Gly Ser Gln
247 50 55 60
248 Ser Val Val Glu Val Pro Tyr Ala Arg Ser Glu Ala His Leu Thr Glu
249 65 70 75 80
250 Leu Leu Glu Glu Ile Cys Asp Arg Met Lys Glu Tyr Gly Glu Gln Ile
251 85 90 95
252 Asp Pro Ser Thr His Arg Lys Asn Tyr Val Arg Val Val Gly Arg Asn
253 100 105 110
254 Gly Glu Ser Ser Glu Leu Asp Leu Gln Gly Ile Arg Ile Asp Ser Asp
255 115 120 125
256 Ile Ser Gly Thr Leu Lys Phe Ala Cys Glu Ser Ile Val Glu Glu Tyr
257 130 135 140
258 Glu Asp Glu Leu Ile Glu Phe Phe Ser Arg Glu Ala Asp Asn Val Lys
259 145 150 155 160
260 Asp Lys Leu Cys Ser Lys Arg Thr Asp Leu Cys Asp His Ala Leu His
261 165 170 175
262 Ile Ser His Asp Glu Leu
263 180
265 <210> SEQ ID NO: 7

```

VERIFICATION SUMMARY  
PATENT APPLICATION: US/09/674,235

DATE: 01/04/2001  
TIME: 09:01:21

Input Set : A:\PTO.txt  
Output Set: N:\CRF3\01042001\I674235.raw

L:10 M:270 C: Current Application Number differs, Replaced Application Number  
L:11 M:271 C: Current Filing Date differs, Replaced Current Filing Date  
L:705 M:361 W: Invalid Split Codon, Sequence data for SEQ ID#: 21  
L:1208 M:112 C: (48) String data converted to lower case,